

Remarks

This is responsive to the final Office Action (Paper No. 6) mailed March 2, 2004. The Applicant has hereinabove provided certain post-final amendments to the claims.

Independent claim 1 has now been generally amended to feature a method comprising obtaining a feed forward input signal to compensate a cage frequency of a motor from a sensor adjacent a disc rotated by said motor. Support for this is found in the original language of claim 1, as well as in the specification at page 5, lines 4-7; page 12, lines 10-18; and at least step 818 in FIG. 8.

The method of claim 1 further generally features applying the feed forward input signal to a servo writer to write substantially circular tracks of servo data to said disc. Support for this is found in the original language of claim 1, as well as in the specification at page 5, lines 7-11; page 12, lines 19-24; page 20, lines 3-7; items 504 and 506 in FIG. 5; and step 820 in FIG. 8.

Claim 2 has been amended to generally feature the sensor as comprising a reference head adjacent a plurality of servo data sectors on a reference track on the disc and the obtaining step further comprising using the reference head to transduce position error signal (PES) values from said sectors. Support for this is found in the original language of claim 2 as well as at item 602 in the specification and in FIG. 6.

Claim 3 has been amended to generally feature the reference track and the reference head are disposed adjacent an outside diameter (OD) of the disc. Support for this is found at item 602 in FIG. 6.

Claim 4 has been amended to generally feature the obtaining step as further comprising using a data transducing head controllably positionable by the servo writer to transduce position error signal (PES) samples from servo data written to the disc and

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determining the feed forward input signal in relation to the sensor and said PES samples. Support for this is found in the specification at item 604 in FIG. 5, in the specification at pages 15, line 20 to 16, line 7 and FIG. 6.

Claim 5 has been amended to generally feature the PES samples of the obtaining step as being transduced from servo data written to a first track adjacent an outside diameter (OD) of the disc and from servo data written to a second track adjacent an inside diameter (ID) of the disc, and wherein the determined feed forward input signal is further provided as a function of disc radius in response to the PES samples transduced from the respective OD and ID of the disc. Support for this is found in the original language of claim 5 as well as in the specification at page 18, lines 9-19.

Claims 6-8 have been cancelled, and the dependency of claim 9 has been changed so that claim 9 now depends from claim 1.

Independent claim 10 has been amended to now generally feature an apparatus which comprises a reference position sensor adjacent a disc rotatable by a motor, a reference cage frequency determination module which determines a reference cage frequency of the motor from the reference position sensor; a feed-forward input signal determination module which determines a feed-forward input signal based on the reference cage frequency; and a servo-writing module which adjusts a position of a data transducer to write substantially circular tracks of servo data on the disc in response to the feed-forward input signal. Support for this is found in the original language of claim 10 as well as FIG. 6 and in the specification at page 12, lines 19-24.

Dependent claims 11-14 have been amended to recite an "apparatus." Claims 15-28 have been cancelled.

These amendments are proper, do not introduce new matter, are not provided for purposes of patentability but rather serve to place the application in better condition for allowance or appeal.

Rejection of Claims Under 35 U.S.C. §102

The final Office Action rejected claims 1-4, 10-13 and 18-22 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,476,995 issued to Liu et al. ("Liu '995"). This rejection is respectfully traversed.

Liu '995 fails to disclose applying the feed forward input signal to a servo writer to write substantially circular tracks of servo data, as claimed by claim 1. Liu '995 detects a spindle runout signal from a displacement sensor 410. See Liu '995, col. 9, lines 9-20; item 410 in FIG. 4; step 1310, FIG. 9.

Liu '995 uses the output from this sensor 410 to *time* the commencement of the writing of servo data. Col. 10, lines 30-36; col. 10, lines 40-46; col. 12, lines 48-52 ("When the cage frequency is at θ_5 the servo write of the first track *is started* as depicted by step 1322."); col. 13, lines 8-12; and col. 13, lines 51-52 ("The controller 212 selects the *time to start servo writing* in response to the cage frequency of the spindle motor."). In this way, the commencement of the writing of the data can be synchronized to the cage frequency (see FIG. 11) or the cage frequency and the spindle frequency (see FIG. 12).

However, Liu '995 *does not* use the signal from the sensor 410 to generate a feed forward correction signal to adjust the actuator during the servo writing process to write substantially circular tracks of servo data, as claimed. This can be conclusively seen by a review of FIGS. 11 and 12; the dashed lines therein represent substantially circular

tracks that would be established by actually moving the servo write head during the servo write using the feed forward input signal as claimed by claim 1. Thus, at best the methodology of Liu '995 provides nested tracks with eccentric shape characteristics and uniform track spacings such as depicted in FIG. 12, not substantially circular tracks as claimed.

Accordingly, the rejection of claim 1 is improper, and the Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 as well as for the claims depending therefrom.

Liu '995 is similarly deficient with regard to the subject matter of independent apparatus claim 10, and accordingly reconsideration and withdrawal of the rejection of claim 10, and the rejection of the claims depending therefrom, are respectfully requested.

Conclusion

This is intended to be a complete response to the final Office Action mailed March 2, 2004. The Applicant respectfully requests that the Examiner reconsider and allow all of the pending claims in the application. The Examiner is invited to contact the below signed attorney should any questions arise concerning this response.

Respectfully submitted,

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